

AD-A067 797

ARMY INST FOR ADVANCED RUSSIAN AND EAST EUROPEAN STUD--ETC F/6 5/9  
CURRENT OBJECTIVES AND DEFICIENCIES IN THE TRAINING OF THE SOVI--ETC(U)  
MAR 75 T C EVANS

UNCLASSIFIED

NL

| OF |  
AD  
A06 797

1



END  
DATE  
FILMED  
6-79  
DDC



**LEVEL #**

**US ARMY INSTITUTE FOR ADVANCED RUSSIAN  
AND  
EAST EUROPEAN STUDIES**

ADA067797

DDC FILE COPY



**STUDENT RESEARCH REPORT**

MAJ. THOMAS C. EVANS

CURRENT OBJECTIVES AND DEFICIENCIES IN  
THE TRAINING OF THE SOVIET TANKER  
-1975-

GARMISCH, GERMANY

APO NEW YORK 09083

**DISTRIBUTION STATEMENT**  
Approved for public release;  
Distribution Unlimited

DDC  
REFILED  
APR 26 1979  
REGITLED  
D

79 04 25 043

R-569/75

## **DISCLAIMER NOTICE**

**THIS DOCUMENT IS BEST QUALITY  
PRACTICABLE. THE COPY FURNISHED  
TO DDC CONTAINED A SIGNIFICANT  
NUMBER OF PAGES WHICH DO NOT  
REPRODUCE LEGIBLY.**

SUBMISSION for	
DTIC	Write Section <input checked="" type="checkbox"/>
DDC	Diff Section <input type="checkbox"/>
UNANNOUNCED	<input type="checkbox"/>
JUSTIFICATION	
Per DDC Form 50	
BY an File	
DISTRIBUTION/AVAILABILITY CODES	
Dist.	AVAIL. and/or SPECIAL
A	23

6. CURRENT OBJECTIVES AND DEFICIENCIES  
IN THE TRAINING OF THE SOVIET TANKER.

9. student research rept.

12. 25p.

10. MAJOR THOMAS C. EVANS

11. March 1975

DDC  
RECEIVED  
APR 26 1979  
D

DISTRIBUTION STATEMENT  
Approved for public release;  
Distribution Unlimited

410 192

JOB

## FOREWORD

This research project represents fulfillment of a student requirement for successful completion of Phase III Training of the Department of the Army's Foreign Area Officer Program (Russian).

Only unclassified sources are used in producing the research paper. The opinions, value judgments and conclusions expressed are those of the author and in no way reflect official policy of the United States Government; Department of Defense; Department of the Army; Department of the Army, Office of the Assistant Chief of Staff of Intelligence; or the United States Army Institute for Advanced Russian and East European Studies.

Interested readers are invited to send their comments to the Commander of the Institute.

RICHARD P. KELLY  
LTC, MI  
Commander

### SUMMARY

The modern battlefield, composed in part of sophisticated and reliable anti-tank weapons, creates tremendous challenges for armor troops of all countries. The heavy reliance on tanks by Soviet ground forces, in light of this anti-tank challenge, has prompted some military specialists in the West to question Soviet military doctrine and the dominant role of the tank. The experience of the October 1973 Mid-East War and the spectacular success of anti-tank weapons has generated response in support of current military doctrine in the official, open press of the Soviet Ministry of Defence, particularly Voennyi Vestnik (Military Journal). The examination of current Soviet training objectives relating to small unit tank forces and associated training deficiencies is the theme of this paper. Specifically, the author describes the measures taken by Soviet military leaders to prepare their tankers for combat on the modern battlefield. The author will attempt to evaluate the Soviet perception of the modern anti-tank threat and its impact on armor training. The paper will conclude with an evaluation of Soviet training deficiencies published in the open press.

## INTRODUCTION

Soviet military strategists, including Marshal Vassili Sokolovski and others, envision the employment of large conventional forces in a modern war. These forces consist of infantry, armor, artillery (including rocket artillery) units and tactical atomic weapons. The employment of nuclear weapons in conjunction with the rapid thrusts of armor units is an integral part of the Soviet concept of the modern military battlefield. This concept holds that:

Success in modern combat or operation depends on skillful use of nuclear weapons and effective action against similar weapons possessed by the other side. The results of nuclear blows are exploited for the purpose of developing swift operations and routing the enemy by large armored formations with tanks as the main striking force. Tanks possess very high firing and striking power, high mobility, good armor protection and considerable resistance to the effects of nuclear weapons. The enhanced role of tanks accounts for the continuous increase in their numbers and improvement of their combat characteristics.<sup>1</sup>

It is apparent that in Soviet military circles the tank has achieved a dominant position in the conduct of land operations in any future war. This Soviet perception of the role of the tank in modern warfare has been openly challenged in the West by military specialists. An article in the May 1974 issue of Army, written by Colonel Edward B. Atkeson and titled, "Is the Soviet Army Obsolete," is extremely provocative. Colonel Atkeson suggests that:

By relying too heavily on tanks and too lightly on other arms in an era of sophisticated and proven anti-tank weapons, the Russian high command may be letting itself be unduly influenced by a war fought 30 years ago.<sup>2</sup>

The controversy over the role of the tank in modern

warfare continues unabated. It is with this debate in mind that the stage is now set for the presentation of the theme of this paper. The general theme examines the preparation of Soviet tankers for combat, however two aspects of this training will be emphasized. First, what are the armor training objectives currently being emphasized at the small unit level? This paper will include the impact of the 1973 Mid-East War, with its documented successes of anti-tank missiles, on Soviet armor training doctrine. Second, Soviet armor training deficiencies will be evaluated based on a study of Soviet open press accounts. These two aspects of the main topic will provide the basic framework for the discussion that follows.

### CURRENT TRAINING OBJECTIVES

The first objective of armor training and a constantly recurring theme in the Soviet military press is the development in the soldier and especially the officers of initiative, creativity and the power of personal example. Soviet doctrine, and for that matter Western doctrine, recognizes the fact that armor units in modern combat will encounter rapidly changing situations requiring decisive action at the small unit level.

These typical features of modern combat make especially high demands primarily upon the commanders of units who must possess such qualities as boldness, independence in decision making, firmness in implementing decisions, initiative and military shrewdness.

It is emphasized that developing initiative in officers is a "painstaking and complex job that requires placing the officers, during the course of their combat training and everyday activities, as frequently as possible, under conditions in which they can show that initiative."<sup>4</sup>

Stress is also placed on the personal example and leadership of the commander. In one article it was noted that in a tank gunnery exercise certain tank crews were having difficulty with the firing exercises and appeared uncertain of themselves. The crews tried to justify their misses by making excuses about the bad weather and the poor adjustment of their weapons.<sup>5</sup>

The company commander realized that a situation had developed which could be corrected only by force of his personal example. He got into the gunner's seat of the tank about which he had complained most of all and proceeded to destroy the target with a direct hit. The effect produced on the troops by the personal example of the

commander was both immediate and beneficial.<sup>6</sup>

Another objective of armor training receiving constant emphasis is the need for tactical coordination among various units and a fundamental understanding of combined armed concepts. One article points out that "during his organization for combat, commanders of motorized infantry, tank and artillery units, while knowing their own missions, must also know the missions of the other units as well. This coordination is absolutely essential for commanders preparing for future combat operations."<sup>7</sup>

The serious armor losses that were suffered by both sides in the 1973 Mid-East War can be traced almost in every case to a violation of precepts in the doctrine of combined arms operation. The Israelis suffered heavy tank losses to anti-tank weapons in the initial stages of the war because of their failure to adequately support their armor operations with infantry and artillery support. The Soviets make references to these violations during the Mid-East War as justification for their own training doctrine and brushing aside claims by Western experts that anti-tank weapons now dominate the battlefield.

An article apparently inspired by the lessons learned of the October war, states that "successful advance is possible only with the reliable suppression of the anti-tank capability of the enemy. This, as is known, requires the coordinated application of different weapons, including a significant role for the artillery. Modern anti-tank weapons are both mobile and maneuverable, therefore, at live firing exercises, artillery men must sharpen their skills at conducting reconnaissance and destroying targets that have suddenly appeared."<sup>8</sup>

Success in modern combat is achieved by the coordinated efforts of the units of all branches of arms. "The artillerymen with their accurate fire achieve clear inter-

action with motorized riflemen and tankers and reliably support their actions with effective fire both in the attack and on defense."<sup>9</sup> It is obvious in this article, that while praising the virtues of the combined arms concept, the author is also rebutting those who claim that the tank has lost its dominant position on the battlefield.

In addition to the emphasis on the combined arms concept in successful armor operations the Soviets have also published their views on the relative strengths of the tank and the anti-tank missile in a one on one situation. They recognize the fact that military specialists in NATO countries consider the PTURS (anti-tank missile) the most effective means of destroying tanks and other armored targets in modern conditions. This is why, according to the Soviets, "the development of the PTURS in the armies of NATO has received such great emphasis including the continuous improvement of their tactical and technological characteristics and the perfection of the principles of military application."<sup>10</sup>

It is extremely interesting to read a Soviet article evaluating the capabilities of PTURS in its struggle with the tank. In the recent article referred to above, the Russians devote ten lines to the strong points of PTURS while the rest of the article analyzes in detail the weaknesses of PTURS. The obvious disparity merely reflects current Soviet doctrine which affirms the pre-dominant role of the tank in modern war. As to the implications of this doctrinal position, the author will address this in the "conclusions" of the paper.

The Soviets describe the strong points of the anti-tank missile in the following manner:

PTURS, according to foreign specialists, is able to destroy tanks at distances from 3-6 kilometers and possesses a high degree of accuracy.

It is considered that for the destruction of one tank not more than 1 or 2 warheads is required. PTURS possesses high armor piercing capabilities (400-600 mm) at all ranges of its directed flight.<sup>11</sup>

The weak points of PTURS are emphasized to provide a basis for the intensive training of Soviet tankers in techniques to overcome the strengths of PTURS and not necessarily a failure to recognize the threat posed by PTURS. It is on the assumed success of this training that the Soviets hope to maintain the viability of the tank in a sophisticated anti-tank environment.

For example, the PTURS has a so-called "dead zone," the size of which depends on the speed of flight of the warhead. Most weapon models fall within the boundaries of 300-500 meters from the point the missile was fired. It is almost impossible to destroy tanks at these ranges or closer to the PTURS because the gunner-operator is not able to guide the warhead on his line of sight and retain it in his field of vision. The large "dead zone" of PTURS requires them, more often than tanks, to change firing positions, thereby revealing themselves. Further, a significant influence on the accuracy of the fire of PTURS is the gunner-operator who must be well trained technically and psychologically. He must for a rather long time, right up to the moment of impact (15-20 seconds) concentrate his attention on the target.<sup>12</sup>

Consequently, small unit armor training emphasizes using the advantages afforded by natural terrain features to remain hidden from the crews of the anti-tank weapons and then rapidly closing with these positions firing their tanks on the move within the "dead zone" of these weapons to ensure their destruction. Any obstacle which impedes observation of the target or causes a break in the lines guiding the warhead from the firing position complicates the use of PTURS and training doctrine constantly emphasizes this fact.

Another element in the training of tankers for the battle with anti-tank missiles is the practice of thorough and intensive reconnaissance by all tank crews for possible missile locations. Those who are the first to detect the target are those who will win in single combat. This is why the systematic development of skills for the detection of this dangerous adversary is needed on tank gunnery ranges, tactical and other field exercises. Practical exercises in the field must be realistic, using exploding devices or imitation shells so that tankers will learn well the revealing signs of PTURS.<sup>13</sup>

Soviet training specialists proclaim that a well trained crew is able to emerge the victor in a battle with PTURS even after the missile has been launched against the tank. During flight the warhead of the PTURS leaves a trail behind it, easily seen by the naked eye, so you are able to determine not only the direction of the fire but also the point from which it originated. Thus claim the Soviets, an excellent tank crew after detecting the firing position of the PTURS, can fire 1-2 well aimed shots, seek good defilade position or sharply change course while the missile is in flight.<sup>14</sup>

The Soviets have observed that new improved types of PTURS, for example, the U.S. TOW, have a higher speed of flight which will require from tankers "a still higher mastery in the use of their weapons, rapid and accurate calculation of the time of flight from firing position to target and use of necessary counter measures."<sup>15</sup> It is absolutely essential, according to Soviet military men, that tankers must know in detail the battle characteristics of PTURS, their strong and weak points and train extensively in the detection of their firing positions.

Another aspect of armor training currently receiving much emphasis is the training of tank crews to combat

helicopters that carry guided and unguided anti-tank missiles and rockets. This training is obviously in response to the threat posed by U.S. helicopters armed with anti-tank weapons which proved themselves to be very effective against tanks.

The Soviet colonel, who is the author of this article, advocates that the development of tank crews in the necessary skills to combat this air threat is carried out best in the course of conventional tank gunnery training. Training will include special fire missions using machine guns mounted on the tank against aircraft and helicopters. During the advance, tanks will as before destroy anti-tank weapons and personnel of the enemy, but at the same time they must be constantly prepared to combat air targets. The most efficient way to train troops in accomplishing these missions is to integrate the various elements of training into a realistic situation.<sup>16</sup> Despite the confidence the author has in this training one can see the increasing complexity of the task for tank crews to detect and defeat the various delivery systems of anti-tank missiles and the absolute necessity for highly skilled crews.

The last aspect of armor crew training to be discussed in this section of the paper is crew interchangeability. The Soviets realize that the success of a tank crew on a modern battlefield depends on the level of technical proficiency of each member of the crew and how well they perform as a well integrated team. Associated with proficiency and team work is the goal for all members of the crew to master the jobs of all the other crew members. This capability to exchange jobs within the crew is one of the most important conditions for increasing the survivability of the tank in modern warfare.<sup>17</sup>

The fast moving situations arising in modern war often require a tank crew to operate independently and this de-

mands from the crew an especially high level of understanding of the tactical situation. "This is why it has become so important during training that every tanker becomes a qualified gunner and is able to take over as tank commander if the situation requires."<sup>18</sup>

### SOVIET TRAINING DEFICIENCIES

Training deficiencies in Soviet armor units (battalion and lower) affect both officers and men. These deficiencies are revealed in the Soviet open press and the intent here is to focus on those deficiencies which are mentioned repeatedly thus revealing problems of a more general character.

One of the most serious deficiencies affecting the Soviet military appears to be the lack of initiative and creativity displayed by the leaders of small units. Articles condemning this malady are published repeatedly in the military press. The author of one article laments:

Unfortunately, at certain exercises and in certain courses an oversimplified and not very instructive situation is still being created. That situation not only does not encourage the officer to show initiative, but on the contrary, teaches him to act according to stereotype and causes the stagnation of the commander's thinking.<sup>19</sup>

All these articles "stress the importance of creativity in the organization for combat and the necessity for commanders of even the smallest units to take initiative into their own hands. Audaciousness and decisiveness are mandatory qualities for a commander in order to achieve success in the most difficult situations in combat."<sup>20</sup> This has to be a serious problem for the Soviet military leadership and it appears strenuous efforts are being exerted in an attempt to rectify the situation. Armor units, by their very nature, must have decisive leaders displaying qualities of initiative and creativity. In the fast moving situations associated with modern warfare, armor units and even individual tanks themselves may have to operate independently at times. These situations will

force commanders even at the lowest level of command to display initiative and independent action.

This problem may be hard to overcome. The principle of strict party control and the centralization of all decision making within the party has permeated all aspects of Soviet society including the military. There is an ingrained psychological response for individuals within the society to accept and carry out orders from above and this attitude is hard to eliminate. Personnel in the armed forces are products of this society and do not come into the military with the experience necessary to organize or carry out operations on the basis of independent decisions. The activities of junior officers are always closely linked with detailed orders from higher commanders. Officers are reluctant on their own volition to take upon themselves responsibility for initiative and independent action, since avoidance of responsibility is easier and provides much less risk. Higher ranking officers are not confident that their subordinates have the capabilities to independently fulfill the mission within the framework of their own decisions and do not want to bear responsibility for the mistakes of their subordinates. There is the possibility that as long as Soviet society continues to exist as it is presently constituted, the products of that society may lack those qualities of decisiveness and initiative so vitally needed on the modern battlefield.

Many criticisms have been published concerning the training of armor units in the execution of fire and maneuver, certainly two of the key elements in achieving tactical superiority on the battlefield. A colonel in the Soviet Army puts it this way:

Some units slowly deploy into combat formations, act in a bored fashion, overcome obstacles with difficulty, fail to combine fire with

maneuver and commanders weakly control the fire of their units. In the live firing exercises part of the targets are not only left undestroyed but are not even detected by the tank crews.<sup>22</sup>

Commanders are accused of continuing to underestimate the strength of the enemy infantry armed with anti-tank weapons. Tanks often lose contact with the motorized infantry, thus greatly increasing the threat of their destruction by PTURS. "Typical shortcomings of many armor units while training in battlefield maneuvers include the disregard for the fire of the "enemy," poor use of cover and concealment afforded by the terrain and the failure to maintain the tempo of the advance."<sup>23</sup>

The deficiencies in tank gunnery have received much attention from a variety of Soviet military authors. There is criticism of the fact that "the targets which are set up for gunnery training are not realistic enough and do not create the atmosphere needed for proper target detection in a combat environment. Targets are often set up in a line with the majority of targets contrasting sharply with the background of the surrounding terrain. As a result, the tank crews easily detect the targets and quickly destroy them. In this type of exercise, the target placement does not require anyone to make quick decisions but rather illustrates that commanders are more interested in the scores of the firing."<sup>24</sup> The author urges that all efforts must be made to correct this tendency by instituting a creative approach to tank gunnery.

The theme of creativity and initiative, with reference to deficiencies in planning and organization of tank gunnery, is discussed by many different authors. An example is given of a particular armor unit, whose officers are specifically mentioned by name, that has failed to provide adequate training in tank gunnery. The shortcomings listed included the "unfulfillment of the basic require-

ments of the program of instruction in gunnery, poor planning and the stifling of the initiative of the instructors."<sup>25</sup>

The recurring theme of "initiative in training" appears many times with reference to tank gunnery. An example is given that during gunnery training exercises in one particular unit the tank turret stabilizer on one tank malfunctioned and a junior sergeant continued to fire the exercise by manual means. The sergeant completed the exercise in an excellent manner, but later, another tank commander accused this sergeant of taking unnecessary risks. According to the author, it was only right that the sergeant was vindicated by support from the rest of the tank company who praised him for his initiative.<sup>26</sup> Every opportunity is taken to publicize individual acts of initiative no matter how insignificant the act.

An interesting revelation in another article is the phenomenon of gunners and tank commanders who had earlier completed all aspects of gunnery with high marks, later becoming careless and making many mistakes in the use of their weapons. The author believes this fact can be attributed to deficiencies in previous training relating to the basic technical knowledge and operation of the weapon. In addition, there are many instances of commanders allowing poor organization of firing in order to merely complete the exercises. They are reluctant to give lower marks because of the poor impression it will make on superiors.<sup>27</sup> These incidents reveal serious shortcomings in the training base upon which the success or failure of Soviet offensive doctrine must rely. One can only speculate on the probable shortcomings never revealed in the open press.

The need for officers to participate in tank gunnery training with the rest of the tankers of the company is essential according to one Soviet author. "Unfortunately, company commanders continue to sit behind their desks

while only their subordinates conduct or participate in training. Changes are necessary in training methodology to force company officers to train with the rest of the company and occupy the positions of tank commanders and gunners to sharpen their skills."<sup>28</sup>

A topic of discussion, which at first glance may not appear significant, is that urging training in firing of the tank's weapons while on the move without the turret stabilizer. It appears from reading other articles that the turret stabilizer often malfunctions leading one to believe that the reliability of the stabilizer may not be very high. "The ability to fire accurately without the stabilizer requires highly developed skills of gunnery and also persistence on the part of the gunner. This specialized firing must be conducted on a regular basis in order to grasp the techniques needed to deliver accurate fire by hand."<sup>29</sup> The key to Soviet offensive doctrine is the employment of highly mobile tanks rapidly closing with the enemy and delivering effective fire on enemy targets while on the move. As the Soviet author has noted above, without the use of the turret stabilizer the crew must possess "highly developed skills of gunnery to deliver effective fire while on the move." While it is obvious that many tank crews do not have these "highly developed skills" the loss of the turret stabilizer could effectively limit the designed offensive capabilities of many Soviet tanks on the modern battlefield.

Finally, reference is made to the fact that "training sessions in certain armor units prior to gunnery exercises are conducted only with the aim of defeating the purpose of the exercises themselves. Commanders have encouraged their subordinates to cheat in these sessions rather than in comprehensive preparation for gunnery training. Such things as telling subordinates the location of targets are discussed in detail, thus effectively limiting the positive results of the training."<sup>30</sup>

These deficiencies, taken as a whole, constitute a rather serious indictment of Soviet armor training practices. These abuses are certainly not unique to the Soviet army and can be found in all armies in the world but the sheer volume of the criticism by Soviet military men leads one to seriously question the resourcefulness, decisiveness and technical training of Soviet tank crews and their officers.

## CONCLUSIONS

The first part of this paper concentrated on the Soviet tank training objectives currently being emphasized at the small unit level. This examination considered the Soviet reaction to the 1973 Mid-East War with the success of anti-tank missiles and rockets against tanks and its impact on Soviet training doctrine. The Soviets are aware of the capabilities of anti-tank weapons since they themselves have developed highly effective anti-tank weapons. It is also evident from Soviet publications that they have confidence in their tactical counter measures to not only suppress anti-tank weapon capabilities but to destroy them. In fact, the Soviets proclaim that a well trained tank crew is able to emerge the victor in a battle with PTURS even after the missile has been launched against the tank. The Soviets conclude that the employment of tank heavy forces on the modern battlefield is tactically sound as long as tank crews are well trained with particular emphasis in techniques to combat PTURS and combined arms operation. Soviet forces in East Germany consisting of 10 armored divisions and 10 mechanized infantry divisions reflects Soviet training doctrine requiring the need for a combined arms team. Soviet emphasis on the role of the tank does not constitute a lack of Soviet understanding for the anti-tank threat but rather confidence in their ability to overcome this threat by application of current doctrine.

Admittedly, this is sound doctrine but a necessary corollary to sound doctrine demands tank crews who are well trained and armor leaders who demonstrate a capacity for decisive and independent action on a highly mobile field of battle. The second part of this paper illustrated a number of deficiencies in Soviet armor training gleaned

from open press accounts. These deficiencies appear to be of sufficient magnitude to seriously threaten the integrity of Soviet military doctrine which emphasizes the dominant role of the tank in modern warfare. Consequently, if tank gunnery training programs lack challenge and purpose, if combined arms techniques are poorly executed and if leaders at the various levels of command lack initiative and drive, even the most credible military doctrine will fail on the battlefield. The purpose here is not to degrade or underestimate the threat Soviet ground forces in Europe present to the West, but rather to analyse this threat more objectively, taking into consideration their vulnerabilities as well as their strengths. The superior number of tanks on the Soviet side often creates an overwhelming sense of military inferiority in the West. It is necessary to understand that a large amount of sophisticated military hardware is only as effective as those crew members who man it. In closing, the author of this paper, while not advocating a posture of complacency, simply suggests that the large numerical superiority of Soviet tanks in Europe may be more than neutralized by the deficiencies in armor crew training discussed above.

#### FOOTNOTES

<sup>1</sup>G. Biryukov and G. Melnikov, Antitank Warfare. (Moscow: Military Publishing House, 1973), p. 5.

<sup>2</sup>Colonel Edward B. Atkeson, "Is the Soviet Army Obsolete," Army (May 1974), p. 10.

<sup>3</sup>Colonel General KH. Ambarian, "Initiative of the Commander," Voennyi Vestnik, No. 8 (August 1974), p. 8.

<sup>4</sup>Ibid., p. 8.

<sup>5</sup>Colonel I. Chuguev, "Power of the Commander's Example," Voennyi Vestnik, No. 1 (January 1974), p. 65.

<sup>6</sup>Ibid., p. 65.

<sup>7</sup>Colonel B. Rudakov, "Organizing Cooperation," Voennyi Vestnik, No. 3 (March 1974), p. 65.

<sup>8</sup>Captain V. Mikhal'chik, "Battery Destroys PTURS," Voennyi Vestnik, No. 8 (August 1974), p. 37.

<sup>9</sup>Ibid., p. 40.

<sup>10</sup>Colonel N. Ezhov, "One on One with PTURS," Voennyi Vestnik, No. 3 (March 1974), p. 86.

<sup>11</sup>Ibid., p. 86.

<sup>12</sup>Ibid., p. 86.

<sup>13</sup>Ibid., p. 87.

<sup>14</sup>Ibid., p. 87.

<sup>15</sup>Ibid., p. 87.

<sup>16</sup>Colonel B. Gudymenko, "Tank Firing Training with Firing on Aircraft and Helicopters," Voennyi Vestnik, No. 8 (August 1974), p. 44.

<sup>17</sup>Major General IU. Ivanov, "Military Capability of the Crew and Interchangeability," Voennyi Vestnik, No. 6 (June 1974), p. 45.

<sup>18</sup>Ibid., p. 46.

<sup>19</sup>Ambarian, op. cit., p. 9.

<sup>20</sup>Major General F. Guslistov, "Initiative and Creativity in the Organization of Battle," Voennyi Vestnik, No. 4 (April 1973), p. 24.

<sup>21</sup>Joseph J. Baritz, Soviet Military Doctrine and Strategy, Garmisch, W. Germany, 1974-75, p. 39.

<sup>22</sup>Colonel N. Eremin, "Creativity in the Organization of Fire from Tanks," Voennyi Vestnik, No. 8 (August 1974), p. 47.

<sup>23</sup>Lieutenant General V. Davidenko, "Tactical Training with Gunnery," Voennyi Vestnik, No 6 (June 1973), p. 24.

<sup>24</sup>Lieutenant General P. Gur'ev, "Target Situation in Gunnery Training," Voennyi Vestnik, No 3 (March 1974), p. 29.

<sup>25</sup>Major General I. Krepyshev, "Raising the Gunnery Training of Soldiers," Voennyi Vestnik, No 6 (June 1973), p. 101.

<sup>26</sup>Lieutenant Colonel V. Mel'nik, "Support-In Field Training," Voennyi Vestnik, No 5 (May 1973), p. 38.

<sup>27</sup>Colonel G. Rymorenko, "If the Soldiers Know Weapons," Voennyi Vestnik, No. 2 (February 1973), p. 104.

<sup>28</sup>Major General V. Bochkovskii, "Modern Methods of Training," Voennyi Vestnik, No. 9 (September 1973), p. 106.

<sup>29</sup>Lieutenant Colonel G. Shevchenko, "Learning to Fire Without the Stabilizer," Voennyi Vestnik, No. 10 (October 1973), p. 107.

<sup>30</sup>Eremin, op. cit. p. 49.

## BIBLIOGRAPHY

- Ambarian, Colonel General KH. "Initsiativa Komandira" (Init-  
of the Commander), Voennyi Vestnik, No. 8 (August 1974),  
pp. 7-10.
- Atkeson, Colonel Edward B. "Is the Soviet Army Obsolete?"  
Army, (May 1974), pp. 10-16.
- Babadzhanian, A Kh. (ed.), Tanki i Tankovye Voiska (Tanks  
and Tank Troops). Moscow: Military Publishing House, 1970.
- Baritz, Joseph J. Sovetskia Voennia Doktrina i Strategia  
(Soviet Military Doctrine and Strategy). Garmisch, West  
Germany, 1974-75.
- Biryukov, G. & Melnikov G. Antitank Warfare. Moscow: Pro-  
gress Publishers, 1973.
- Bochkovskii, Major General V. "Sovershenstvuet Metodiku  
Trenirovok" (Modern Methods of Training), Voennyi  
Vestnik, No. 9 (September 1973), pp. 106-109.
- Chistiakov, Colonel V. "Tvorchestvo Komandira-Rukovoditelia  
Ucheniia" (Creativity of the Commander-Leaders of Train-  
ing), Voennyi Vestnik, No. 6 (June 1973), pp. 14-18.
- Chuguev, Colonel I. "Sila Komandirskogo Primera" (Power of  
the Commander's Example), Voennyi Vestnik, No. 1 (Jan-  
uary 1974), pp. 64-66.
- Davidenko, Lieutenant General V. "Takticheskia Ucheniia s  
Boevoi Strel'boi" (Tactical Training with Gunnery),  
Voennyi Vestnik, No. 6 (June 1973), pp. 18-24.
- Eremin, Colonel N. "Tvorchestvo v Organizatsii Strel'by  
iz Tankov" (Creativity in the Organization of Fire from  
Tanks), Voennyi Vestnik, No. 8 (August 1974), pp. 47-51.
- Ezhov, Colonel N. "Odin na Odin s PTURS" (One on One with  
PTURS), Voennyi Vestnik, No. 3 (March 1974), pp. 86-89.
- Finaev, Major A. "Komandir Otlichnoi Tankovoi..." (Command-  
er of an Excellent Tank...), Voennyi Vestnik, No. 3  
(March 1974), pp. 15-16.
- Gudymenko, Colonel B. "Tankostrelkovaia Trenirovka so  
Strel'boi po Samoletam i Vertoletam" (Tank Firing Train-  
ing with Firing on Aircraft and Helicopters), Voennyi  
Vestnik, No. 8 (August 1974), pp. 44-47.
- Gur'ev, Lieutenant General P. "Mishennaia Obstanovka na  
Ucheniakh s Boevoi Strel'boi" (Target Situation in  
Gunnery Training), Voennyi Vestnik, No. 3 (March 1974),  
pp. 28-33.

- Guslistov, Major General F. "Initsiativa i Tvorchestvo pri Organizatsii Boia" (Initiative and Creativity in the Organization of Battle), Voennyi Vestnik, No. 4 (April 1973), pp. 23-25.
- Ivanov, Major General IU. "Boesposobnost' Ekipazha i Vzaimozameniaemost'" (Military Capability of the Crew and Interchangeability), Voennyi Vestnik, No. 6 (June 1974), pp. 44-47.
- Krepyshev, Major General I. "Poyshat' Ognevuiu Vyuchku Voinov" (Raising the Gunnery Training of Soldiers), Voennyi Vestnik, No. 6 (June 1973), pp. 100-104.
- Mel'nik, Lieutenant Colonel V. "Upor-Na Polevye Zaniatiia" (Support-In Field Training), Voennyi Vestnik, No. 5 (May 1973), pp. 38-42.
- Mikhal'chik, Captain V. "Batareia Unichtozhaet PTURS" (Battery Destroys PTURS), Voennyi Vestnik, No. 8 (August 1974), pp. 36-40.
- Rakitin, Colonel A. "Vuchebnykh Podrazdeleniakh-Vypusknye Ekzameny" (In Training Units-Final Exams), Voennyi Vestnik, No. 5 (May 1973), pp. 46-49.
- Rogov, I.V. & Bol'shev, B.N. Metodika i Zucheniia Material'noi Chasti Tankovogo Vooruzheniia (Methods of Studying the Technical Part of Tank Gunnery). Moscow: Military Publishing House, 1968.
- Rudakov, Colonel B. "Organizuiia Vzaimodeistvie" (Organizing Cooperation), Voennyi Vestnik, No. 3 (March 1974), pp. 65-69.
- Rymorenko, Colonel G. "Esli Soldat Znaet Oruzhie" (If the Soldier Knows Weapons), Voennyi Vestnik, No. 2 (February 1973), pp. 104-106.
- Shevchenko, Lieutenant Colonel G. "Uchim Streliat' Bez Stabilizatora" (Learning to Fire Without the Stabilizer), Voennyi Vestnik, No. 10 (October 1973), pp. 106-107.
- Shramov, N.N. Strel'ba iz Tanka (Fire From a Tank). Moscow: Military Publishing House, 1973.
- Simonenkov, Colonel B. "Ispol'zovanie Mestnosti v Boiu" (Use of Terrain in Battle), Voennyi Vestnik, No. 4 (April 1973), pp. 49-53.
- Solov'ev, Major General M. "Tekhnicheskaiia Podgotovka Tankistov" (Technical Training of Tankers), Voennyi Vestnik, No. 1 (January 1973), pp. 47-49.
- Zhel'toukhov, Lieutenant Colonel A. "Vzaimodeistvie-Osnova Uspekha v Boiu" (Cooperation-Basis of Success in Battle), Voennyi Vestnik, No. 9 (September 1973) pp. 46-50.